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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/533,216

05/23/2005

Georgy Ramasanovich Umarov

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EXAMINER

NGUYEN, HOANG M

ART UNIT

PAPER NUMBER

3748

MAIL DATE

DELIVERY MODE

02/20/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/533,216	Applicant(s) UMAROV ET AL.	
	Examiner Hoang M. Nguyen	Art Unit 3748	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>5/23/05, 7/18/05</u> . | 6) <input type="checkbox"/> Other: ____. |

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Claims 1-3 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The claimed method for converting thermal energy to useful work differs from the known methods in that a working medium interacts with a low temperature energy source, Dirac's matter in the positron state being used as said source, and this interaction is performed by putting the working medium into quantum-mechanical resonance therewith. Additional energy in the form of heat is generated as a result of annihilating the positron with substratum resulting from Dirac's matter in the positron state.

It is known that a positron can form as a result of the collision of photons with charged particles, and also in the event of collisions between two charged particles having sufficient energy (i.e. at least 1.02 MeV). As a positron cannot exist on earth for long due to the presence of a great abundance of free electrons (lifetime $5 \cdot 10^{-11}$ s), an antiparticle formed collides with a particle during the process of annihilation. In doing so, they are transformed into other particles. In the absence of other particles during annihilation of one positron and one electron two quanta are generated, flying in opposite directions. Thus, as a result of the annihilation process a source can be produced emitting waves of the following length. According to Einstein's law $2h\nu = 2m_0c^2$, from which $h\nu = m_0c^2/h$. As the length of wave λ is related to the wavelength $\lambda = c/\nu$, we obtain the following: $\lambda = 2 \cdot 10^{-12} \text{m}$. The wavelength produced is the wavelength of

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shortwave electromagnetic gamma radiation. It is known from the prior art that one of the methods for producing monochromatic beams of high-energy γ -quanta is based on this property of the annihilation process. The applicant has indicated that the claimed invention can be applied industrially for heating. Indeed, radiation is used in industry for drying and heating. However, for these purposes powerful sources of infra-red radiation are used, as it is specifically this radiation that is characterized by heat properties.

Moreover, it is known that in laboratory conditions antiparticles are generated in the interactions of particles on accelerators. Antiparticles are kept in storage rings (see Fizicheskii entsiklopedicheskii slovar, Moscow, "BOLSHAYA ROSSIISKAYA ENTSIKLOPEDIYA", Moscow 1995, pages 23-24, 227 /i/; Fizicheskaya entsiklopediya, Moscow ~BOLSHAYA ROSSIISKAYA ENTSIKLOPEDIYA", Moscow, 1994, volume 4, pages 398, 399 /2/). In such devices, antiparticles are stored in a state of motion at a speed close to the speed of light, inside large ring-shaped vacuum chambers. The radius of these rings is measured in tens and hundreds of meters, and the overall number of antiparticles circulating therein is very small. The application does not contain information concerning devices generating antiparticles.

It should be noted that in order for any reaction to be used in nuclear-power engineering the following conditions must be observed (see Shirokov Yu. M. Yadernaya fizika, Moscow, Nauka, 1972, pages 511 /3/): (1) the starting materials for the reaction must be available in sufficient quantities; (2) it must be possible to produce the reaction on a macroscopic scale.

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The above casts doubt on the possibility of generating heat from the annihilation process on a macroscopic scale. Therefore the claimed invention cannot work properly.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by US 2948861 (Babb).

Babb discloses a quantum mechanical resonance device comprising a main microwave cavity 20 with a temperature regulator 22 for interaction of the working fluid with said heat source 22 by bringing the working medium into the quantum-mechanical resonance with said state of matter.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. 2948861 (Babb) in view of U.S. 6465965 (Nelson). Babb discloses a quantum mechanical

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resonance device comprising a main microwave cavity 20 with a temperature regulator 22 for interaction of the working fluid with said heat source 22 by bringing the working medium into the quantum-mechanical resonance with said state of matter. Babb does not disclose the positron state in the Dirac's matter. Nelson is relied upon to disclose an apparatus using quantum mechanic for positron state in Dirac's matter (column 3, lines 15-50). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify Babb to have positron state in Dirac's matter as taught by Nelson in order to produce appropriate amount of power output.

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Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Examiner Nguyen whose telephone number is (571) 272-4861. The examiner can normally be reached on Tuesday--Friday from 12:30 AM to 10:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion can be reached on 571-272-4859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Hoang M Nguyen/
Primary Examiner, Art Unit 3748

HOANG NGUYEN
PRIMARY EXAMINER
ART UNIT 3748

Hoang Minh Nguyen
2/20/2009